

Alternative WS-13

Small Isolated Transfer Facility - Delta Channel Improvements (Dual Transfer Facility)

This alternative focuses on reducing diversion effects on fish and providing a more reliable water supply from the Delta, primarily through relocation of M&I export diversions, increased through Delta conveyance, and moderate levels of habitat restoration.

A small, isolated transfer facility is included to connect the relocated diversion on the Sacramento River to Clifton Court Forebay. The improvements in through Delta conveyance capacity, coupled with increase diversion rate capacity increases opportunity for diversions. The relocated diversion also improves the water quality of exports, and reduces constraints on M&I exports associated with entrainment of fish. Ecosystem benefits include increased habitat value and decreased losses of anadromous and Bay-Delta native fish. Delta water quality is improved through improved Delta circulation, by reducing pollutant loading of the Delta via the San Joaquin River, and through agricultural, industrial, and municipal wastewater reclamation and reuse. The isolated facility essentially eliminates the vulnerability of M&I export supplies to catastrophic failure. The vulnerability of Delta land use, Delta water supply, agricultural export water supply and Delta ecosystem function to catastrophic failure is reduced by improving levees throughout the Delta.

Key Actions

Construct Small (M&I) Isolated Transfer Facility—Construct a new isolated transfer facility from the Sacramento River between Freeport and Walnut Grove to Clifton Court Forebay with a capacity of 5000- 8,000 cfs. Provide best available fish screening technology at the new diversion and use real time monitoring to help operate the diversion to minimize fisheries impacts. This relocation of the diversion point significantly reduces the number of fish (especially resident Delta species) exposed to the diversion, the length of time fish are exposed to the diversion, and reduces rerouting of migrating fish caused by flow circulation associated with export pumping. The new diversion point also provides access to higher quality water for export than the existing diversion location.

Channel Capacity Improvements—Improve channels of the north Delta area with dredging, levee setbacks, and gradient control facilities. Improvements to existing through-Delta Conveyance channels would improve the efficiency of water movement to the export facilities for times when exports exceed the capacity of the small isolated transfer facility, thereby reducing fishery entrainment effects and improving water quality in the south Delta.

Increase Diversion Rate Capacity—Install additional gate on Clifton Court Forebay and obtain permit to pump at full export capacity under appropriate conditions.

Levee Upgrades—Establish long-term cost-shared levee maintenance program to provide improved flood protection and system reliability. Provide landside buffer zones of 150 to 300 feet to minimize levee subsidence for islands with deep peat soil. Improve levee maintenance and stabilization to at least PL-99 standards (generally considerably more than 100-year flood protection) for all islands.

Restore Delta Island Habitat—Acquire Delta island properties from willing sellers, convert land use to diverse and permanently flooded wildlife habitat to minimize or reverse subsidence in the west Delta. Also acquire Delta island and tract properties from willing sellers within the 100 year flood plain for creation of tidal and seasonal wetlands, creation of diverse riparian and uplands habitats, and providing flood storage areas to compensate for increased flood flows due to watershed urbanization.

Supporting Actions

Install South Delta Barriers—Construct barriers on Old River, Grant Line Canal, and Middle River to address water level and water quality impacts of exports from the south Delta.

Riparian and Wetland Habitat Restoration—Portions of some Delta islands or tidelands would be restored to provide substantial increases in brackish and tidal marshes; riparian woodlands; and waterfowl breeding, wintering, and feeding habitat. Substantial shoreline areas would be restored to increase shallow and shaded riverine, and tidal slough habitat. Emphasis would be placed on restoring shoreline habitats along Delta levees that require upgrading and protection. Because this alternative would retain the current south-Delta location of the export pumps, restoration efforts would be focused principally on the northern and western Delta and Suisun Bay away from the direct influence of these pumps. Where cost effective, construct water-side berms and construct setback levees to create riparian and wetland habitat.

Fish Passage Improvements—Improve anadromous fish survival through improved habitat, providing passage through obstructions, through improved water quality, and opening alternative migration routes.

Reclamation—Reduce pollutant loading via the San Joaquin River and reclaim agricultural, municipal and industrial wastewater for a variety of uses, improving water quality by reducing wastewater discharges.

Control Introduced and Nuisance Species—Implement programs to reduce the likelihood of introducing exotic species and to combat the deleterious effects of those which have become established.

Preliminary Assessment

Ecosystem Quality—The M&I isolated transfer facility and through-Delta conveyance improvements in this alternative would greatly reduce diversion impacts on Sacramento River anadromous fish and all fish at Clifton Court Forebay. They would also reduce the reverse flow impacts currently associated with the export pumps. Consequently, improvements in ecosystem

productivity would be expected in the western Delta and lower San Joaquin River. Complementary restoration actions, implemented at moderate levels, would increase the extent and quality of habitat, principally in the north and west Delta. Diversion impacts associated with in-Delta diversions and the export pumps could be further reduced by screening the diversion location for the through-Delta flow of water. Terrestrial and avian species would also benefit through the creation of wetlands and riparian zones. Losses of agricultural lands would need to be mitigated through enhancement on selected existing agricultural lands.

Water Supply—Key and supporting actions will substantially improve water supply reliability and flexibility, through increased opportunity for diversion and through facilities less vulnerable to seismic damage. The M&I water supply component would achieve an acceptable level of reliability. A distributed intake system would reduce vulnerability to shutdown due to aquatic impacts.

Water Quality—High quality M&I water from the Sacramento River would be assured. South and west Delta water quality would be improved due to reduced agricultural return flow from islands converted to wildlife habitat and from improved cross Delta flow. This option could provide a high quality secure source of supply for SWP south of Delta M&I as well as EBMUD and San Joaquin County.

System Reliability—There would be modest gains in delta levee reliability, due to the levee maintenance programs, riparian berms, channel improvements, setback levees, and subsidence control/reversal measures. Most of the Delta levees would be significantly less vulnerable to failure from flooding. The M&I water supply system would achieve much greater reliability.